DOCUMENT RESUME

ED 090 452 CG 008 829

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TITLE Covert Conditioning: Case Studies in Self-Management.
PUB DATE Apr 74
NOTE 17p.; Presented at the Annual Meeting of the American Educational Research Association (59th, Chicago, Illinois, April 1974)

EDRS PRICE MF-$0.75 HC-$1.50 PLUS POSTAGE
DESCRIPTORS *Behavior Change; Case Studies; Conditioned Response; *Conditioning; *Covert Response; *Desensitization; *Personality Change; Speeches

ABSTRACT

The self-management of thoughts and mental images was used in a series of empirical case studies to influence behavior changes. The target behaviors in the cases reported were smoking, overeating, fingernail biting, thinking self-depreciative thoughts, and responding assertively. Self-monitoring, covert positive reinforcement, covert sensitization, and covert rehearsal were the strategies employed. Subjects were taught to self-monitor and to use covert responses to modify target behaviors. The effectiveness of covert procedures for these subjects was tested using N=1 designs. (Author)

ED 090452

COVERT CONDITIONING:

CASE STUDIES IN SELF-MANAGEMENT

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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American Educational Research Association
Annual Meeting
Chicago, Illinois
April, 1974

Session # 10.16

CG 008 829

Covert Conditioning: Case Studies in Self-Management

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The student asks the master:
"How can I change the way I act?"
A well-considered answer flows
As master slowly speaks:
"Cherish, my son, this unencumbered fact:
Despite all wells of knowledge
From which you may so deeply drink,
In every last analysis,
You're nothing more than what you think!"

Covert behavior is that class of on-going human reactions which occur exclusively "within the skin." Thinking, imagining, visualizing, and feeling are all prominent members of this broad classification of behavior. Until only recently, most learning theorists have regarded covert behavior as an unloved stepson who is better ignored than dealt with. The attention of behaviorism was paid exclusively to a second ("legitimate") son: overt, motor behavior. However, despite rejection by behavioral psychology, covert behavior has wandered far and wide and has picked up much support and attention. In fact, there is a long history of therapeutic approaches which emphasize cognitive factors and which focus on maladaptive covert self-verbalizations (e.g., Kelly, 1955; Berne, 1961; Ellis, 1962; and Glasser, 1965). These therapies regard behavior change in much the same way as "the master" in the above poem: "In every last analysis, you're nothing more than what you think!" New behaviors follow when the client acquires the ability to speak to himself or herself in a more appropriate and adaptive manner, and self-management comes about as a result of proper control

of covert behavior.

It is now apparent that the "prodigal son" has returned home to an enthusiastic welcome by his behavioristic relatives. Increasingly, articles on covert conditioning and self-control are occupying prominent places in learning theory oriented journals. The "Behavioristic Excursion into the Lion's Den (Kanfer & Karoly, 1972)" has begun, and there are definite signs that more and more hunters would like to get in on the safari.

Although there have been some facinating research studies recently performed which empirically support the effect of covert (cognitive) behavior in the modification of overt behavior (e.g., Meichenbaum, 1973; Murray & Jacobson, 1969; Jacobs & Wolpin, 1971; Oliveau, Agras, Leitenberg, Moore, & Wright, 1969; and Leitenberg, Agras, Barlow, & Oliveau, 1969), the focus of the present paper is upon case studies and upon the clinical applications of covert techniques. Since the paper does deal only with case studies, a brief note of warning must be mentioned: very few case studies employ designs allowing for direct assessment of a hypothesized treatment (e.g., an "A-B-A" design) and, therefore, the results obtained are open to an unlimited number of alternative explanations.

Behavior therapists, in devising covert change strategies, have made two important assumptions: (a) "private" (covert) events are subject to exactly the same rules of acquisition, maintenance, and extinction as are any "public" behaviors; and (b) the investigation of covert events is possible because such behaviors are observable to a population of one (i.e., to the individual experiencing them). The second of these assumptions places the study of covert conditioning

processes within the area of self-management since no one other than the client can either initiate or identify private events. As Kanfer and Phillips (1970) have pointed out, the therapist becomes a consultant and an "instigator" in self-management programs rather than a direct behavior modifier or a contingency manager.

Clinical Applications of Covert Conditioning

Within the general area of covert conditioning, there are two major subheadings: classical conditioning approaches and operant conditioning orientations.

Classical conditioning

Cautela (1969) reviewed possible self-management techniques and mentioned five which were based upon the classical conditioning model: (a) relaxation, (b) desensitization, (c) thought stopping, (d) covert sensitization, and (e) assertive training. Each of these approaches employs the explicit use of incompatible covert actions to reduce the probability of other specific covert behaviors (often emotions such as anxiety). This matching of an incompatible behavior with the behavior to be reduced has been termed counter-conditioning (Bandura, 1969). For example, the behavior of relaxation is incompatible with anxiety. If a person can learn to relax in potentially anxiety-producing situations, the anxiety response can be controlled. The reduction of anxiety in this manner is analogous to the early classical conditioning studies of Pavlov. Just as the dog learns to associate a bell with meat powder, the individual who learns to relax in formerly anxiety-provoking situations will learn to associate relaxation with those

situations. When the strength of association is greater for the relaxation response than for the anxiety reaction, the anxiety will drop out of the individual's response repertoire. The use of relaxation training in reducing anxiety in everyday life situations has been reported by Zeisset (1968) and Goldfried(1973). Goldfried, in his study, argued that "effective fear reduction follows from an active [covert] attempt on the part of the client to relax himself, rather than [from] simply presenting aversive stimuli when the individual happens to be in a relaxed state [p. 251]." This hypothesis, of course, further supports the importance of covert behaviors in the change process.

In desensitization (Wolpe, 1958), a heirarchy of anxiety-provoking events is imagined with relaxation. With each step in the heirarchy, the client finds the originally fear-provoking stimuli become less and less immobilizing. Although desensitization is not normally viewed as a self-management technique, Cautela (1969) and Watson and Tharp (1972) do suggest its use in such a context. Case study illustrations of this form of covert conditioning for self-modification have shown changes in heterosexual anxiety (D'Zurilla, 1969), in test anxiety and fear of public speaking (Bugg, 1972), and in phobic reactions to snakes (Meichenbaum, 1971). Both Meichenbaum (1973) and Goldfried (1973) would emphasize the critical importance of covert self-instructions to the effectiveness of self-desensitization programs. By training oneself to think "Relax!" in anxiety situations, the client becomes much more able to actually relax.

The third classical conditioning technique, thought stopping

(Wolpe, 1969), involves the introduction of an imagined shout of the word "stop." This behavior is incompatible with such covert behaviors as obsessive thoughts, hallucinations, or compulsive behavior. Cautela and Baron (1973) aided a client to reduce self-injurious thoughts (e.g., "I've got to poke my eyes!") by the thought stopping approach. Similarly, Wisocki (1973) reduced a client's positive thoughts about heroin usage (e.g., "How easy it would be to get some smack" or " It would be really nice to trip out").

A fourth approach, covert sensitization (Cautela, 1966,1967), is an imagery technique which has generated considerable interest. In this procedure, the client is encouraged to develop a series of cognitive images of varying stages of approach to an undesired behavior (e.g., cigarette smoking). As the client pictures each step very clearly in his or her mind, an aversive covert response is slowly introduced to the imagery. Normally the noxious stimulus employed is the imagination of acute nausea. As the client's sequence of imagery comes closer and closer to the undesired behavior (e.g., taking out the cigarette; beginning to light it), he/she also imagines the process of beginning to vomit all over the undesired object (the pack of cigarettes). From a respondent viewpoint, the imagery establishes a classically-learned association of aversive stimuli and the undesired target behavior. The client is sensitized to any and all occurrences of the behavior he/she wishes to reduce. The aversive response (feeling nauseous) is incompatible with the enjoyment of the target behavior.

Covert sensitization, which is normally viewed as a classical conditioning model, has many components which would indicate that its effects might well be the result of operant as well as respondent

conditioning. For instance, a client may be instructed to practice the nauseous scene immediately following occurrence of any thoughts about the undesired target response. In effect, the aversive images become consequences of the covert thoughts related to the undesired target behavior. As a consequence of a behavior, these aversive covert images easily can be interpreted as self-punishment (which, of course, is an operant rather than a classical technique). Furthermore, in Cautela's covert sensitization training, the subject is asked at the end of each scene to imagine that he/she is moving away from the undesired behavior (e.g., cigarette smoking). The client, then, is covertly reinforced (negatively reinforced) by the removal of the aversive visual image and is positively reinforced by imagining himself/herself feeling better and better.

It matters little, however, whether the effect results from classical or operant conditioning; a client who has been sensitized in this way is much more likely to be able to exercise self-control and to modify his/her undesirable behavior. Demonstrations of the effectiveness of the technique in altering overt behavior of clients are found abundantly in the literature. Nine case studies have indicated successful applications of covert sensitization to the reduction of alcoholism (Cautela, 1966; Anant, 1967), obesity (Cautela, 1966; Janda & Rimm, 1973), sadistic sexual fantasies (Davison, 1968), smoking (Tooley & Pratt, 1967), fetishism and addiction (Kolvin, 1967), sexual deviation (Barlow, Leitenberg, & Agras, 1969), homosexual behavior (Curtis & Presly, 1972), and drug addiction (Wisocki, 1973). One

final case study reported by Maletzky (1973) involved not only covert sensitization but also a physically noxious stimulus to heighten the effect of the nauseous visual imagery. Using the malodorous substance, valeric acid, a client in the Maletzky study eliminated his compulsion to commit fellatio. The same approach has proved effective in reducing homosexual behavior and overeating (Maletzky, 1973).

The final classical conditioning treatment for self-management, assertive training, has been explained by Wolpe (1968). An assertive behavior can be used as an incompatible response to social anxiety. Nothing, however, has yet appeared in the self-management literature which deals exclusively with assertive training.

In summarizing the applications of classical conditioning to the area of self-management, it must be emphasized that all five techniques (relaxation, desensitization, thought stopping, covert sensitization, and assertive training) are employed to reduce or eliminate maladaptive behaviors. None employs a model that would make a desired behavior more likely. It is this additional flexibility which is granted through the use of the operant techniques.

Operant techniques

Perhaps the earliest self-management technique of an operant nature was proposed by Homme (1965) who focused directly upon covert behaviors and their role in the change process. Since Homme's approach is operant in nature, he coined a new term in the literature, "coverant," to refer to covert operants which include such behaviors as thinking, imagining, and feeling.

Briefly, Homme's coverant conditioning therapy (CCT) involves

systematic attempts to increase certain desired coverants while reducing other undesired coverants. The underlying assumption of treatment is that if a person can be led to think differently, that person will act differently. For example, a client who wishes to lose weight may very infrequently perform the coverant (i.e., the covert operant) of thinking about how his/her stomach bulges on either side of the belt buckle. Such coverants are not pleasant and, therefore, do not occur often. Homme argues that were such thoughts to increase substantially, they would begin to interfere with such overt behaviors as eating a third piece of pie or canceling a paddleball match. The solution, then, is simple: attempt to increase the unlikely coverants (thinking about the belt buckle) as much as possible. To accomplish this goal, Homme suggests the use of the Premack Principle (1965, 1971): Make performance of a highly probable behavior contingent upon the accomplishment of the low probability coverant. It does not matter what high probability behavior is chosen. Thus, one client may think about how terribly fat he is just before he takes one of his frequent naps; another may contemplate her dwindling wardrobe before every cup of coffee she drinks. Both, however, would be increasing a coverant of low probability which would tend to be incompatible with certain fat-producing behaviors.

There are several case study investigations which have appeared in the literature to support Homme's technique. Mahoney (1971) described a CCT approach which made smoking, a high probability behavior (HPB), contingent upon positive self-thoughts. The rapid increase in covert positive thoughts helped remove the client's depression which had

earlier been labeled as paranoid schizophrenia.

Johnson (1971) attempted CCT with two clients. In the first case, an operant behavior (assertiveness in a dating situation) was increased by manipulating coverants (self-practice of assertive responses). The desired coverants were reinforced by two HPBs: (a) eating and (b) starting a car after it has been stopped at a red light. Johnson's second example involved increasing coverants via operants. The client overcame severe depression by making his urination (HPB) contingent upon imagery of his success in therapy (e.g., more dates, more interaction with males, and better academic performance).

Flannery (1972) was able to employ reading (HPB) to reward positive self-thoughts and, ther by, to aid a drug dependent college woman to break her habit. Todd (1972) presented two case studies which illustrated dramatic reductions in severe depression by making HPBs (smoking and job-related telephone calls) contingent upon positive self-thoughts.

Cautela (1970a, 1970b) has developed several additional operant conditioning self-management procedures. In the therapeutic implementation of his ideas, Cautela (1970a) employs imaginal manipulation of both a desired response and certain reinforcing stimuli (covert positive reinforcement or CPR). In what is called covert negative reinforcement (CNR), an aversive image is removed immediately as the behavior which is to be increased is imagined (Cautela, 1970b). In both CPR and CNR, the behavior that is pictured is one that the client wished to increase in frequency. Extensive client practice of the covert linkages is necessary

in either form of treatment. The covert behaviors of imagery in a short time lead to overt changes in the client's behavioral repertoire.

In applying his techniques Cautela would, for example, carefully decide with his client what would be a rewarding covert behavior, perhaps the imagining of a favorite fishing spot, or a truly aversive covert behavior, maybe a severe disappointment or fear. Then, depending upon the desired outcome of treatment, Cautela would encourage the client to imagine specific aspects of the desired behavior (e.g., appropriate social relationships) and follow it with the covert reinforcement; or alternatively, the client would imagine the covert aversive stimulus (e.g., snakes and spiders) and remove it contingent upon the imagination of the desired behavior. Once again, both of these techniques would serve to increase the likelihood of a desired overt behavior.

Although the literature does not use the term "covert punishment," it is clear that such a concept would be essentially equivalent to Cautela's covert sensitization (1967). When a pleasurable but undesirable stimulus in a covert sensitization session is followed by imagining noxious sensations, this is not different from contingently administering a covert punishment following the undesirable stimulus.

Cautela's theorizing (1970a, 1970b) has grown out of clinical practice, and in his theoretical presentations, Cautela includes case study illustrations. Blanchard and Draper (1973) have recently described a covert reinforcement procedure which contributed to the

elimination of a rodent phobia. Interestingly, this study represented the only attempt to employ an N=1 design ("A-B-A" design) that was found in the review of the literature on the clinical applications of covert conditioning.

Cautela has very recently postulated two final covert analogues to traditional operant techniques: covert extinction (Cautela, 1971) and covert modeling (referred to in Flannery, 1972). The Flannery article reports a successful case study employing covert modeling and other techniques with a drug dependent college dropout. Wisocki (1973) also presents a case study using a number of Cautela's techniques in aiding a client to alter his behavior in three areas: (a) elimination of heroin addiction, (b) improvement of "self-concept," and (c) establishment of pro-social behaviors.

A repeated warning

Although each of the papers cited above supports the clinical use of covert conditioning procedures, it must again be stressed that the present paper deals only with case studies. In some of these studies, additional techniques were employed and would, of course, tend to obscure any direct test of any one method. Additionally, no matter how well planned a case study, its conclusions are merely speculations as compared to the results of a carefully designed experimental investigation.

Using Covert Conditioning as a Classroom Technique

The above survey of the clinical literature on self-management by covert conditioning yields many ideas as to how such procedures may be used as effective therapeutic tools. The applications, however, may

also go far beyond clinical settings. Self-management is not confined to the therapist's office; nor does it restrict its clientele to those who have "a problem."

During the past year, the author has on two occasions instituted a class requirement that each of his students completes a self-modification project before the end of the term. Student projects have followed the format of Watson and Tharp's (1972) text with an additional emphasis placed on covert approaches to self-management. Student reactions to the projects have been unanimously positive. Three examples will serve to make this point clear:

1. A student who employed a modified form of Homme's coverant conditioning therapy to lose weight wrote, "I am very pleased with this approach to dieting - - I have daily feedback on how I am doing . . . As opposed to the too many other diets I have tried, this one works - - and for that I am very grateful."

2. After employing a self-relaxation model to reduce inappropriately hostile social behaviors (which resulted from anxiety), one student wrote, "I began to become more involved with people during a conversation; I didn't avoid situations as I had in the past; and I began to look for people to interact with. . . . The new behavior itself became rewarding."

3. A student who had completely given up smoking reported the natural occurrence of covert sensitization: "Several times a week I'm involved in meetings and conferences in close quarters with heavy smokers. I leave those meetings nauseated. Now, whenever I have the urge to smoke, I just have to think of the last meeting a short time ago and how irritated I was."

Summary

In covert conditioning, the self-managing individual has all the tools necessary to promote self-growth in whatever direction may be desired. The highs and lows of one's life can be vividly imagined within programmed contingencies to produce relaxation, excitement, behavior change, emotional growth, or cognitive development. The covert behaviors of one person cannot be perceived by anyone else, but in a self-managed program, such questions are of little importance.

The prodigal son has returned! The "welcome home" is over, and now counselors must encourage clients to help themselves to the full range of growth that is covertly open to them.

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